

Work Order ID. 73997

Tuesday, September 20, 2011 10:28:40 AM

Page 1

Item ID: D206-642-541

Accept

Revision ID:

Item Name: Replacement Skidtube

Start Date: 9/20/2011 Start Qty: 1.00

Required Date: 10/11/2011 Req'd Qty: 1.00

Reference:

Approvals:

Process Plan:

Date: 11-09-20

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run

Start

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Draw Nbr

Revision Nbr

D3274

D

IIN-D206-642

Rev M

100

0.00



DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy bluefile & type labels per PPP D206-642-541

CHG003

N/A

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng./ Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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Date:

Stop



Sequence ID/
Work Center ID

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Set Up/
Run Hours

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Tool #

Plan
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Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

110

0.00



Skidtubes

Skidtubes

Memo

0.00

Skidtubes

****VERIFY AND INSPECT THE MATERIAL PRIOR TO USE****

1- Bend FWD end of tube using bend prog D3274 FWD and foil 10 as per dwg D3274, cut fwd end of tube with saw table setup D3274.

2- remove fwd indexing ridge as per dwg D3274. Prepare for welding

3- weld fwd cap as per dwg D3274 and OSI004

AR Aluminum Rod Batch: M1178829

4- grind fwd cap weld on top surface only

5- Cut AFT end of tube at 170.9" as per dwg D3274 and deburr end.

6-Drill Aft cap pilot hole using DT8025

7 -Cleco DT8025 in position and install pilot hole drill Jig DT8742A,B,C,D. Drill 3/16" pilot holes as per Dwg D3274

8 -Remove inner indexing ridge on aft end of skidtube as per Dwg D3274 scribe batch #

9 -Open aft end cap holes to Ø0.208" as per Dwg D3274. Deburr aft end.

DP 11-10-6

DP 11-12-6

BE 11-12-06

DP 11-12-6

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Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
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DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

114



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

11-12-06 (1)

116



QC

Quality Control

QC10- Inspect visual per QSI004- ground welds

0.00

Memo

0.00

11.12.06

120



HandFinish

Hand Finishing

Chemical Conversion Coat per QSI005 4.1

0.00

Memo

0.00

11-12-06

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Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

130

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

[Handwritten signature]
SAD

11-12-14

150

Skidtubes

0.00



Skidtubes

Memo

0.00

Skidtubes

1-Open Ø0.313" and 0.375" crossbolt spacer holes as per Dwg D3274

2-Debur crossbolt spacer holes as per Dwg D3274 and blow out chips from inside the tube

3-Bond web in place as per Dwg D3274 & QSI 015.

A/R ☐ Sikaflex-291 ☐ 119,349 ☐

Sikaflex expire date: ☐ 12/08/13 ☐

Start: ☐ 11/12/07 ☐ Time: ☐ 3:50 ☐

Finish: ☐ ☐ Time: ☐

(Adhere for 12 hours)

[Handwritten signature]

11-12-6

DC 11/12/07

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Customer:

Reference:

Run Start



Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

160



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

BE ~~11-12-14~~

170



Skidtubes

Skidtubes

Skidtubes

0.00

Memo

0.00

1-Bend AFT end of tube using bend prog. D3274 AFT as per dwg D3274. Install drop pins in crossbolt spacer holes to maintain web position.

2- DRILL PILOT HOLES FOR WEARPLATES USING D3274-1T2
OPEN HOLES TO .297" . Deburr3-DRILL TOE PIN HOLE .640" DIA AS PER DWG USING DT8935 FWD
END OF TUBEDEBURR INSIDE OF HOLE AS NECESSARY (DO NOT ENLARGE HOLES)
REMOVE ANY FOREIGN OBJECTS INSIDE OF TUBES

4- Countersink crossbolt spacer holes as per Dwg D3274

5- prepare for welding

mo 11-12-13

11/12/23

W/O:		WORK ORDER CHANGES					
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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

180

QC5- Inspect part completeness to step on W/O

0.00

4.6°
3.06"

1

0

BE12-01-05

QC

Memo

0.00

Quality Control

190

Skidtubes

0.00

Skidtubes

Memo

0.00

1-Insert D2649 & D3275-1 crossbolt spacers. Weld as per QSI 004 and Dwg D3274. Remember to back drill each hole before welding the other side. Use aluminum rod

A/R ☐ Aluminum Rod

M119785

BE12-01-05

3-Grind cross bolt welds flush as per Dwg D3274.

JB

12/01/11

4-Counterbore 5/16" x 0.750" deep as per Dwg D3274 and deburr.

JD

12-1-12

W/O:		WORK ORDER CHANGES					
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

200

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

S 17/01/15

210

QC10- Inspect visual per QSI004- ground welds

0.00



QC

Memo

0.00

Quality Control

S 17/01/15

220

Pressure Wash per QSI005 4.3

0.00



HandFinish

Memo

0.00

Hand-Finishing

Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch

IXP m-f 12/01/16

W/O:		WORK ORDER CHANGES					
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Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

230

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00



Powdercoat

Memo

START TIME:

OVEN TEMPERATURE:

FINISH TIME:

0.00

Powder Coating

240

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

250

HandFinishing

0.00



HandFinish

Memo

0.00

Hand Finishing

1-Install Nut Plate as per Dwg D3274. Apply LPS-3 to Nut Plate and rivets.

A/R ☐ N/A ☐ LPS-3 ☐ 11/5/16.

2-Install inserts as per Dwg D3274. Use a drop of Sikaflex inside insert holes a

A/R ☐ ☐ Sikaflex-291 ☐ 11/9/08 ☐ ☐

Sikaflex expire date: ☐ 12-8.

Handwritten: 1X M-12/01/16

Handwritten: 1 BR 12-1-18.

Handwritten: 1 BR 12-1-18.

Handwritten: m 119480

W/O:		WORK ORDER CHANGES					
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Customer:

Reference:

Approvals: Process Plan: Date: Tooling: Date:

Run Start



QC: Date: SPC (Y/N): Date:

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

260

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

Inspect Nut Plate & Inserts

8/20/11

270

HAND FINISHING RESOURCE #1

0.00



HandFinish

Memo

0.00

Hand Finishing

1-Install wearpads & gaskets as per Dwg D3274.

2-Install ring as per Dwg D3274

A/R ☐ Sikaflex-291 ☐ 11/9/08 ☐

Sikaflex expire date: ☐ 12-8

3-Inspect for foreign objects as per QSI 024

4-Spray inside of tube on both sides of web with LPS-3

A/R LPS-3 Batch: N/A

5-Install Aft Cap and seal with Sikaflex. Clean excess adhesive.

A/R ☐ Sikaflex-291 ☐ 11/9/08 ☐

Sikaflex expire date: ☐ 12-8

PROCTON, 114596

1 BR12-1-18

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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
280	QC5- Inspect part completeness to step on W/O	0.00							
QC	Memo	0.00							
Quality Control									
290	Identify as per dwg & Stock Location: _____	0.00							
Packaging	Memo	0.00							
Packaging									
300	QC21- Final Inspection - Work Order Release	0.00							
QC	Memo	0.00							
Quality Control									

S 12/11/11

AP 7/13/24

12/11/24

12/11/24

12-01-24

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Picklist Print

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Page 1

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Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

Start Date: 9/20/2011




Required Date: 10/11/2011

Start Qty: 1.00

Required Qty: 1.00

Comments:

IPP Rev:B 05.09.23 Revised per D206-642 Rev. J KJ/JLM
 IPP Rev:C 07-02-23 Added SS Wearplates & Gaskets JLM
 IPP Rev:D 07-12-06 replace NAS1515H3L to D3672-1 DD
 IPP Rev:E 08-04-17 as per PAR 08-015 DD verified by:EC
 IPP Rev:F 08-06-02 add comment DD verified by:EC
 IPP Rev:G 08-10-09 revise details DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2600-1-190  Extrusion Round 3" 206		Manufactured	No			110	Each	71.4000	1	1			
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				HALL		71.4			① DP 11-10-6				
				59874		13.4							
				69622		58							
D3285-1  Cap		Manufactured	No			110	Each	89.0000	1	1			
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>	BR 11-12-06				
				LG002		89							
				52511		42							
				52647		47							
D3282-041  Float Web (206L/407)		Manufactured	No			150	Each	13.0000	1	1			
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>	PC 11/12/07				
				LG		13							
				70050		10							
				72838		3							

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Start Qty: 1.00

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D2649 Manufactured No

190

Each

289.0000

12

12



Cross Bolt Spacer

76793

x12



85

11-12-14

Location

Loc Qty

Loc Code

LG

6

68224

2

71355

2

72704

2

LG001

283

65317

1

68507

11

73390

271

D3275-1 Manufactured No

190

Each

244.0000

12

12



Crossbolt Spacer

74437

x12



85

11-12-14

Location

Loc Qty

Loc Code

LG

138

72123

138

LG002

106

66930

106

CR3212-4-03 Purchased No

250

Each

1,138.000

2

2



Cherry Rivet

BR 12-1-18

Location

Loc Qty

Loc Code

FP-B

2

110139

2

ST311

1136

114859

1136

2

Tuesday, September 20, 2011 10:28:37 AM

Shop Packet Print

Page 2

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Start Date: 9/20/2011

Required Date: 10/11/2011

Start Qty: 1.00

Required Qty: 1.00

D3415-041

Manufactured No

250

Each

46.0000

1

1



Nut Plate



BL 12-1-18.

Location

Loc Qty

Loc Code

ST053

46

33842

2

67605 ✓

44

CCR264SS3-3

Purchased

No

250

Each

435.0000

2

2



Cherry Rivet



BL 12-1-18.

Location

Loc Qty

Loc Code

FP-B

2

113973

2

ST311

433

117086

23

117849 ✓

410

ALS4-1032-130

Purchased

No

250

Each

502.0000

78

78



Insert



BL 12-1-18.

Location

Loc Qty

Loc Code

ST281

370

118386

370

ST282

132

117717

46

118237

48

118312

38

78.

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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Tuesday, September 20, 2011 10:28:37 AM

Page 4

Work Order ID: 73997

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

Start Date: 9/20/2011

Required Date: 10/11/2011

Start Qty: 1.00

Required Qty: 1.00

D3536-15 Manufactured No

270

Each

18.0000

1

1



Gasket



BR 12-1-18.

Location

Loc Qty

Loc Code

FP011

73318.

18

71586

13

72881

5

1

D3536-23

Manufactured No

270

Each

14.0000

1

1



Gasket



BR 12-1-18.

Location

Loc Qty

Loc Code

FP011

73318.

14

43406

1

69902

1

71579

12

1

D3536-35

Manufactured No

270

Each

17.0000

1

1



Gasket



BR 12-1-18.

Location

Loc Qty

Loc Code

FP012

73313.

17

71587

8

72882

9

1

D3536-39

Manufactured No

270

Each

16.0000

1

1



Gasket



BR 12-1-18.

Location

Loc Qty

Loc Code

FP015

73317.

16

69760

16

1

Tuesday, September 20, 2011 10:28:37 AM

Shop Packet Print

Page 4

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Tuesday, September 20, 2011 10:28:37 AM

Page 5

Work Order ID: 73997

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

Start Date: 9/20/2011

Required Date: 10/11/2011

Start Qty: 1.00

Required Qty: 1.00

D3535-15
Wearshoe

Manufactured No

270 Each

17.0000

1 1

Location

Loc Qty

Loc Code

FP007 73315.
73006

12

12

FP018

69931

5

5

D3535-35
Wearshoe

Manufactured No

270 Each

6.0000

1 1

Location

Loc Qty

Loc Code

FP018 73311
67598
70815

6

1

5

D3535-39
Wearshoe

Manufactured No

270 Each

15.0000

1 1

Location

Loc Qty

Loc Code

FP018 73316
69759
72159

15

2

13

D3535-23
Wearshoe

Manufactured No

270 Each

14.0000

1 1

Location

Loc Qty

Loc Code

FP021 73316.
70818
71581
73314.

14

4

10

+

1

BR 12-1-18.

BR 12-1-18.

BR 12-1-18.

BR 12-1-18.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng./ Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Tuesday, September 20, 2011 10:28:37 AM

Page 6

Work Order ID: 73997

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

Start Date: 9/20/2011

Required Date: 10/11/2011

Start Qty: 1.00

Required Qty: 1.00

D3537-3 Manufactured No
Wearpad

270 Each 21.0000

1 1



BL 12-1-18

Location	Loc Qty	Loc Code
FP 76986	4	
70481	4	
FP017	17	
35697	1	
72144	11	
72686	5	

D3537-1 Manufactured No
Wearpad

270 Each 70.0000

9 9



BL 12-1-18

Location	Loc Qty	Loc Code
FP001 77036	60	
72124	60	
FP016	3	
68944	0	
70687	3	
FP017	7	
69817	5	
70686	2	

AN960C10L * NAS1149C0332 ✓ Purchased No

270 Each 0.0000

80 80

washer

119736



80 BL 12-1-18

AN960C416 * NAS1149C0463 ✓ Purchased No

270 Each 0.0000

1 1

washer

117735



1 BL 12-1-18

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Tuesday, September 20, 2011 10:28:37 AM

Page 7

Work Order ID: 73997

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

Start Date: 9/20/2011

Required Date: 10/11/2011

Start Qty: 1.00

Required Qty: 1.00

D3672-1 Manufactured No

270 Each 1,080.000 2 2



Phenolic Washer



BL 12-1-18

Location Loc Qty Loc Code

ST074 1078

64177 86

66821 ✓ 492

72229 500

ST077 2

52505 2

2

AN3C4A Purchased No

270 Each 2,700.000 80 80



BOLT



BL 12-1-18

Location Loc Qty Loc Code

ST350 119749 2700

117313 2

117688 5

117872 22

118112 16

118451 969

118628 186

118706 500

118838 1000

80

AN4C5A Purchased No

270 Each 483.0000 1 1



BOLT



BL 12-1-18

Location Loc Qty Loc Code

FP-B 94

112243 ✓ 94

ST345 389

112243 389

1

Tuesday, September 20, 2011 10:28:37 AM

Shop Packet Print

Page 7

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Tuesday, September 20, 2011 10:28:37 AM

Page 8

Work Order ID: 73997

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

Start Date: 9/20/2011

Required Date: 10/11/2011

Start Qty: 1.00

Required Qty: 1.00

D2646 Manufactured No

270

Each

88.0000

1

1



Aft Cap



BR 12-1-18-

Location

Loc Qty

Loc Code

FP004

73825

44

68280

44

FP006

5

62678

5

FP-4

35

70945

1

71070

34

fp5

4

71038

4

D3413-1

Manufactured No

270

Each

59.0000

1

1



Ring



BR 12-1-18.

Location

Loc Qty

Loc Code

ST420

75478.

19

66387

1

70773

18

ST467

40

72137

20

73298

20

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART

DESIGN CP	DRAWN BY PH	DART AEROSPACE USA, INC. PORT HADLOCK, WA	
CHECKED #	APPROVED #	DRAWING NO. D3274	REV. D SHEET 1 OF 4
DATE 06.12.19		TITLE SKIDTUBE ASSEMBLY	SCALE NTS
A	04.03.15	NEW ISSUE	
B	04.08.09	MOVE SADDLE HOLE: 42.14 WAS 42.76	
C	05.03.16	ADD -043; NEW INSERTS	
D	06.12.19	NEW INSERTS, SS WEARSHOE + GASKET	

RELEASED07.02.12 **#****DEO ATTACHED**

Qty -041	Qty -043	Part Number	Description
X		D3274-041	SKIDTUBE ASSEMBLY
	X	D3274-043	SKIDTUBE ASSEMBLY
1	1	D2600-1-240	EXTRUSION
1	1	D2646	AFT CAP
12	12	D2649	CROSS BOLT SPACER
12	37	D3275-1	CROSS BOLT SPACER
1	1	D3282-041	FLOAT WEB
1	1	D3285-1	CAP
1	1	D3413-1	RING
1	1	D3415-041	NUT PLATE
1	1	D3535-15	WEARSHOE
1	1	D3535-23	WEARSHOE
1	1	D3535-35	WEARSHOE
1	1	D3535-39	WEARSHOE
1	1	D3536-15	GASKET
1	1	D3536-23	GASKET
1	1	D3536-35	GASKET
1	1	D3536-39	GASKET
9	9	D3537-1	WEARPAD
1	1	D3537-3	WEARPAD
78	78	ALS7-1032-130	INSERT (or AKS4-1032-130, ALS4-1032-130, AELS-1032-130)
80	80	AN3C4A	BOLT
1	1	AN4C5A	BOLT
1	1	AN960C416	WASHER
80	80	AN960C10L	WASHER
2	2	CCR264SS3-3	RIVET
2	2	CR3212-4-03	RIVET
2	2	NAS1515H3L	WASHER

GENERAL NOTES:

1. TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
2. DAMAGE TOLERANCE ON FWD BEND:
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 7 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020 DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
3. ALL HOLES DRILLED ON CENTERLINES.
4. BOND D3282-041 FLOAT WEB INTO D3274-1/-3 OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/291 ADHESIVE PER DART QSI 015. ENSURE HOLES LINE-UP.
5. WELDING TO BE DONE PER DART QSI 004.
6. FINISH: - ACID ETCH, ALODINE ASSEMBLY PER DART QSI 005 4.1
- POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
7. DRILL Ø0.297 HOLES FOR ALS7-1032-130 INSERTS USING DT3274-1T2 BEFORE FINISH. INSTALL ALS7-1032-130 INSERTS AFTER FINISH. SEAL WEARSHOE BOLTS WITH SIKAFLEX -241/-291.
8. SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

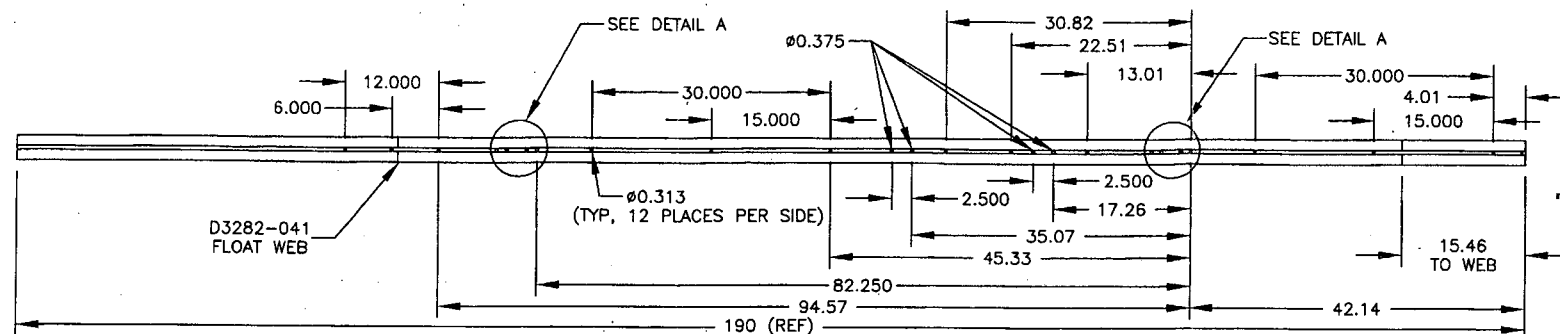
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

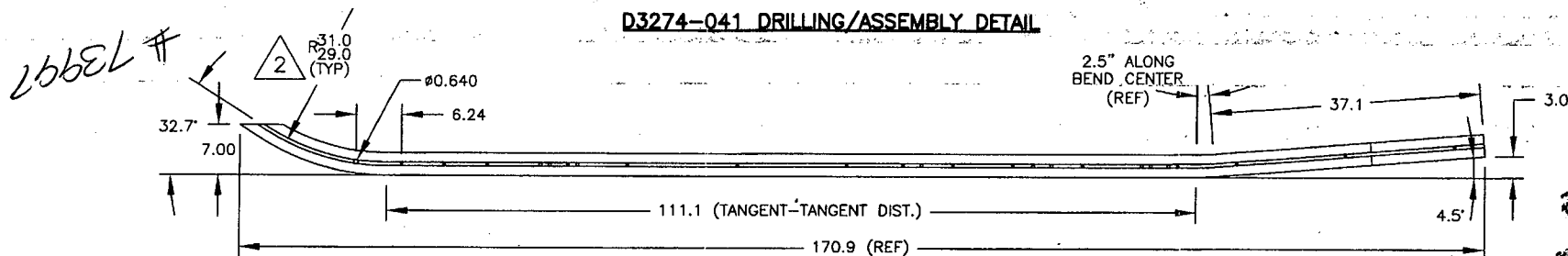
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

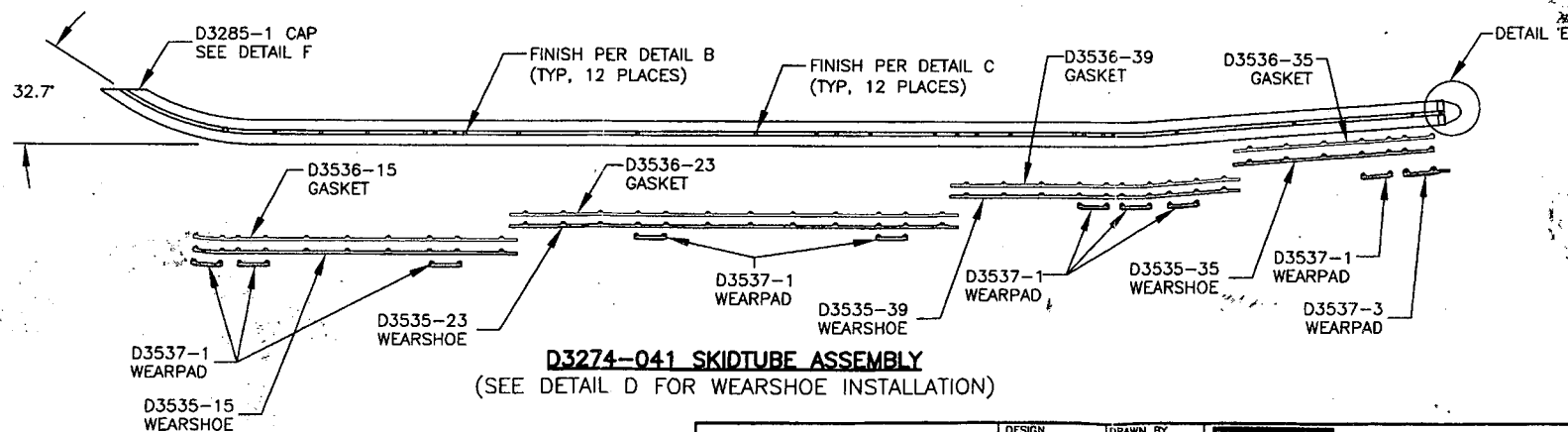
DEO ATTACHED



D3274-041 DRILLING/ASSEMBLY DETAIL



D3274-041 BEND/DRILLING DETAIL



D3274-041 SKIDTUBE ASSEMBLY

(SEE DETAIL D FOR WEARSHOE INSTALLATION)

RELEASED

07.02.12

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DESIGN	CP	DRAWN BY	PH	DART DART AEROSPACE USA, INC. PORT HADLOCK, MA	REV. 0
CHECKED	#	APPROVED	#	DRAWING NO. D3274	SHEET 2 OF 4
DATE	06.12.19	TITLE	SKIDTUBE ASSEMBLY	SCALE	1:15

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

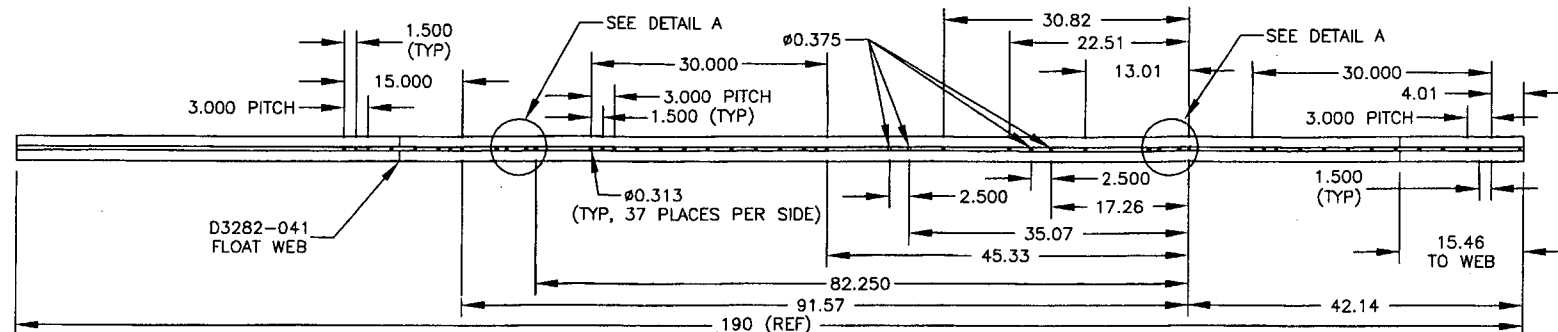
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

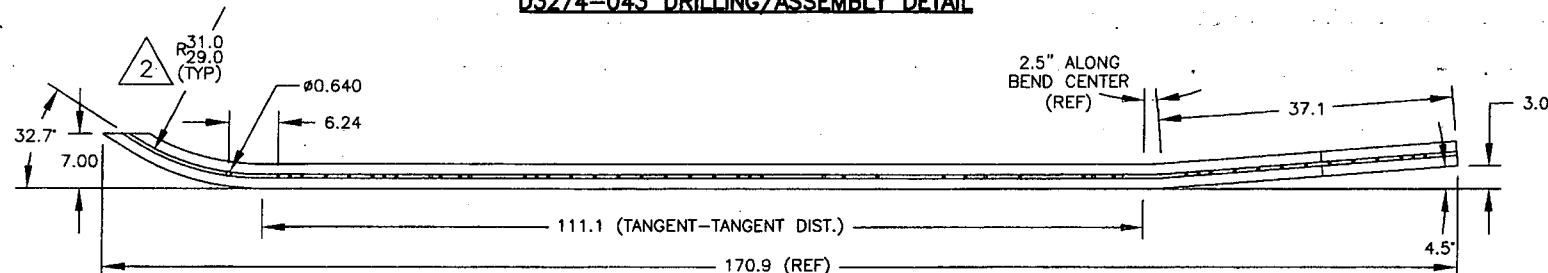
NOTE: Date & initial all entries

DEO ATTACHED

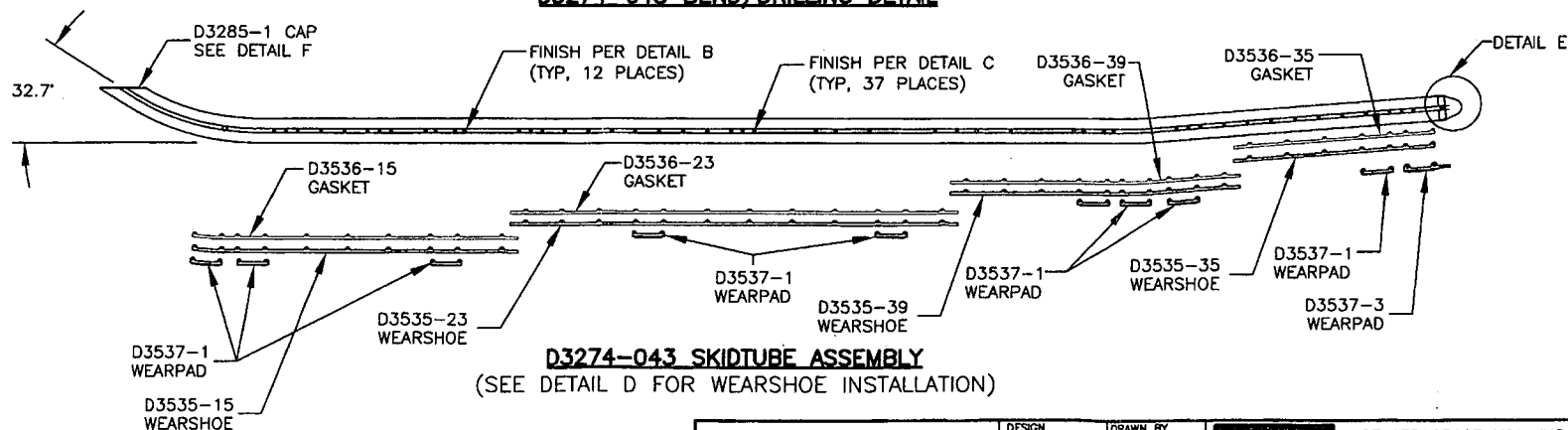


D3274-043 DRILLING/ASSEMBLY DETAIL

L66EL #



D3274-043 BEND/DRILLING DETAIL



D3274-043 SKIDTUBE ASSEMBLY
(SEE DETAIL D FOR WEARSHOE INSTALLATION)

RELEASED

07.02.12

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DESIGN	CP	DRAWN BY	PH	DART DART AEROSPACE USA, INC. PORT HADLOCK, WA
CHECKED	#	APPROVED	#	DRAWING NO. D3274
DATE	06.12.19	TITLE	SKIDTUBE ASSEMBLY	REV. D SHEET 3 OF 4 SCALE 1:15

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

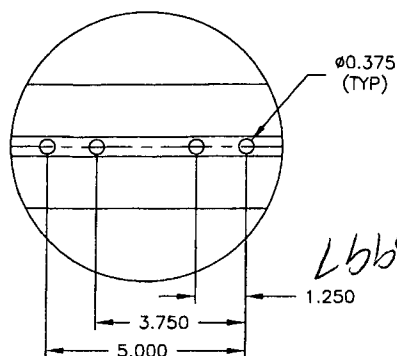
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DETAIL A: DRILL DETAIL



0.375
(TYP)

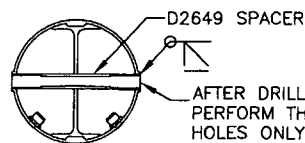
1.250

3.750

5.000

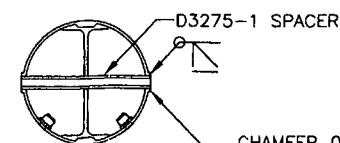
LbbEL #

DETAIL B FOR 0.375 HOLES ONLY



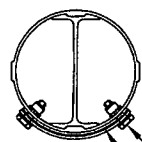
- AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR 0.375
HOLES ONLY:
1. CHAMFER HOLE 0.030x45°
 2. INSERT D2649 SPACER
 3. WELD INTO PLACE AND GRIND FLUSH
 4. C'BORE TO 0.313x0.75 DEEP

DETAIL C FOR 0.313 HOLES ONLY



CHAMFER 0.030x45°
(TYP)

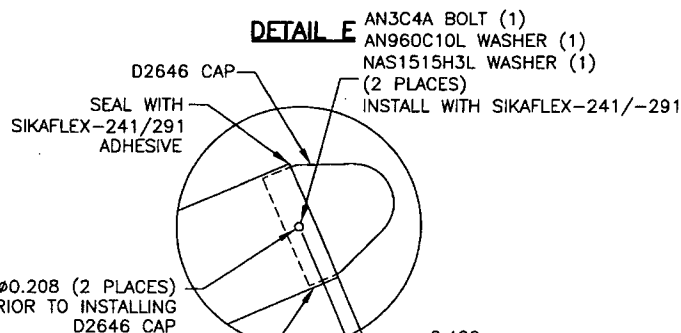
DETAIL D



- ALS7-1032-130 INSERT (1)
AN3C4A BOLT (1)
AN960C10L WASHER (1)
(78 PLACES)

GASKET/WEARSHOE/WEARPAD (REF)

DETAIL E



- AN3C4A BOLT (1)
AN960C10L WASHER (1)
NAS1515H3L WASHER (1)
(2 PLACES)
INSTALL WITH SIKAFLEX-241/-291

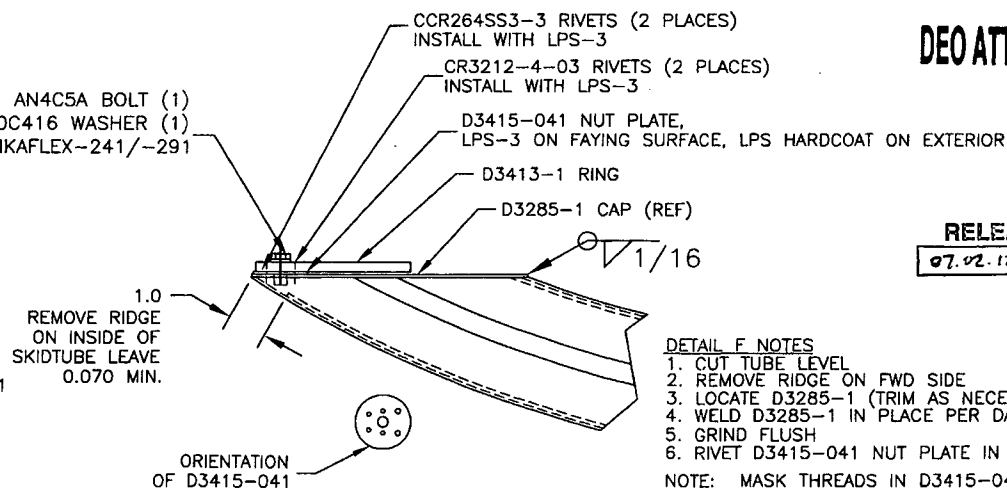
SEAL WITH
SIKAFLEX-241/291
ADHESIVE

0.208 (2 PLACES)
DRILL PRIOR TO INSTALLING
D2646 CAP

BORE OUT END OF SKIDTUBE
TO 0.75 DEPTH AND 0.070 WALL

0.400

DETAIL F: END FINISHING DETAIL



CCR264SS3-3 RIVETS (2 PLACES)
INSTALL WITH LPS-3

CR3212-4-03 RIVETS (2 PLACES)
INSTALL WITH LPS-3

D3415-041 NUT PLATE,
LPS-3 ON FAYING SURFACE, LPS HARDCOAT ON EXTERIOR

D3413-1 RING

D3285-1 CAP (REF)

1/16

1.0
REMOVE RIDGE
ON INSIDE OF
SKIDTUBE LEAVE
0.070 MIN.

ORIENTATION
OF D3415-041

DEO ATTACHED

RELEASED

07.02.12 #

DETAIL F NOTES

1. CUT TUBE LEVEL
 2. REMOVE RIDGE ON FWD SIDE
 3. LOCATE D3285-1 (TRIM AS NECESSARY)
 4. WELD D3285-1 IN PLACE PER DART QSI 004
 5. GRIND FLUSH
 6. RIVET D3415-041 NUT PLATE IN PLACE
- NOTE: MASK THREADS IN D3415-041
PRIOR TO FINISH

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		DATE	06.12.19	TITLE		SCALE	1:3
				SKIDTUBE ASSEMBLY			

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

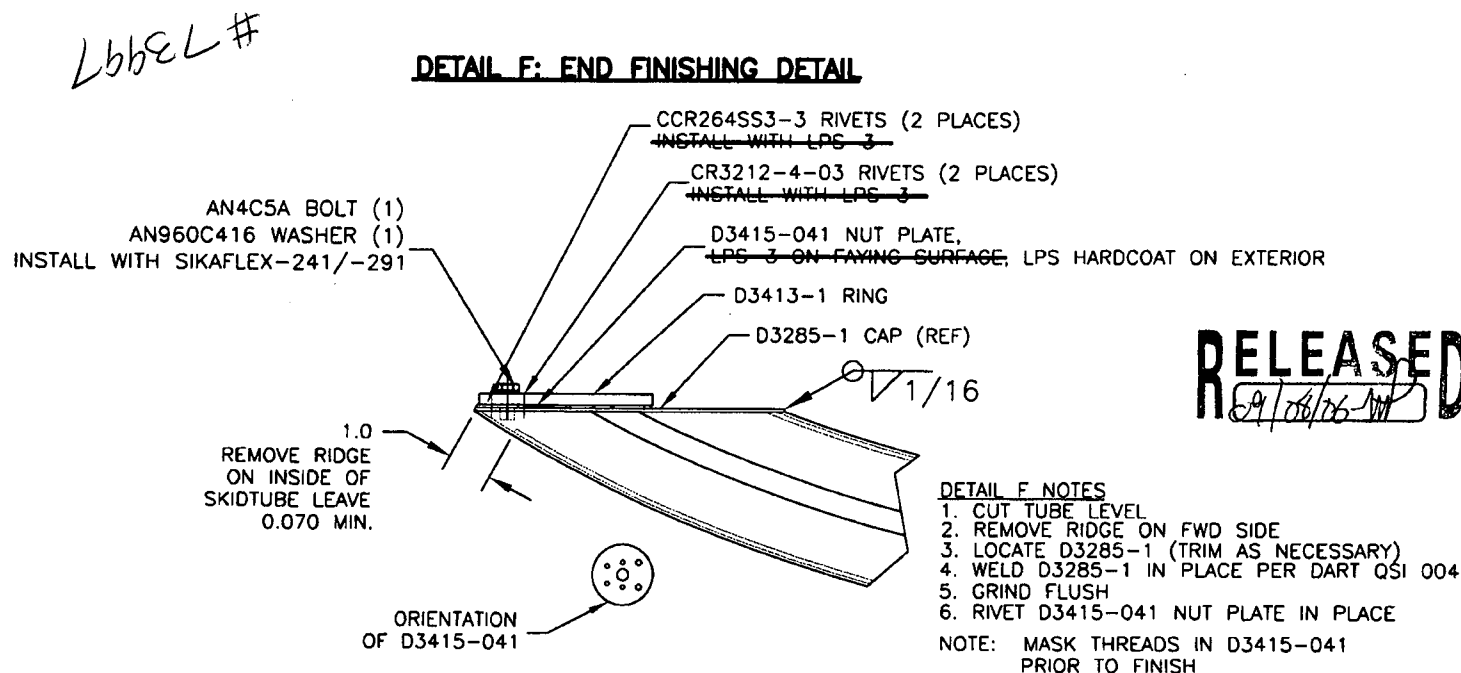
NOTE: Date & initial all entries

DRAWING NO. D3274	TITLE SKIDTUBE ASSEMBLY	REV. D	DART AEROSPACE USA, INC ENGINEERING ORDER	D.E.O. NO. D3274-D-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>UP</i>	CHECKED <i>L</i>	MFG. APPR. <i>M</i>	APPROVED <i>MP</i>	DE APPR. <i>#</i>		
DATE 09.06.17	DATE 09.06.23	DATE 09/06/23	DATE 09/06/23	DATE 09.06.23		

LPS-3 IS NO LONGER USED DURING ASSEMBLY OF SKIDTUBE.

AMEND NOTE 8: "~~SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES 'LPS 3' AFTER FINISH AND INSTALLATION OF INSERTS.~~
COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES 'LPS PROCYON' AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF
POWDER COATING WITH MEK DEGREASER."

AMEND DETAIL F AS SHOWN:



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action / Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

NO. 278

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliot
Job number: 766119
Part number: 206-642-151
Description: 206 skid tube
Welding Process: Tig ☒ Mig ☐
Base material: Aluminum
Current: AC ☒ DC ☐

TEST REQUIREMENTS AND RESULTS

Visual: pass ☒ fail ☐
Penetration: pass ☒ fail ☐

UNACCEPTABLE

Cracks: pass ☒ fail ☐
Undercut: pass ☒ fail ☐
Pin holes: pass ☒ fail ☐
Overlap (cold lap): pass ☒ fail ☐
Porosity (surface): pass ☒ fail ☐
Coloration: pass ☒ fail ☐

Qualifier: Pat. Dunn Date of Test Coupon 11-12-20
Welder: Barclay Elliot Date of Test Coupon 11-12-20

The above named individual is qualified in accordance with AWS D17.1.2001 to weld